
The New Cosmos. *Albrecht Unsöld*, translation by *W. H. McCrea*. The Heidelberg Science Library, Springer-Verlag New York Inc. (Paperback) 1969. xii+373 p. \$6.50.

For more than thirty years, Professor Unsöld of Kiel University has been the outstanding European authority on the physics of stellar atmospheres. His treatise, "Physik der Sternatmosphären", originally published in 1938 and since revised, has been almost as familiar to American and English graduate students as to German ones, and both Unsöld himself and many of his students have visited the larger American observatories for spectroscopic observations to reinforce the theoretical analysis for which Unsöld has made Kiel famous.

About three years ago, Unsöld decided to write a more general work that would serve as a compact introduction to the whole field of modern astronomy and astrophysics. The title "Der neue Kosmos" refers back to Alexander von Humboldt's famous "Kosmos" of the mid-nineteenth century. Translated into English by W. H. McCrea of Sussex, the book is addressed particularly to scientists in other fields who want a self-contained handbook that would provide them with an account of the major modern discoveries in astronomy and their background.

To this purpose, each section starts with a brief historical introduction of the topic and then states concisely the current theoretical and observational results. The range of subjects extends all the way from astronomical coordinates and planetary mechanics to stellar physics and the study of distant galaxies by both radio and optical means. Unsöld does not hesitate to include the essential equations that are actually used in each type of problem, but the reader without a full mathematical background can usually get a pretty good picture of the physical situation, even if he skips the equations. For those interested in more detailed derivations, a good bibliography of the important books and journals is provided at the end of the volume.

With the excellent photographs and diagrams characteristic of Springer publications, the book can be read with more excitement and pleasure than one would think possible for such a concise and comprehensive handbook. This is due to the fact that the author not only knows which developments are really significant, but never fumbles for words to make his meaning clear.

P. C. KEENAN

Proceedings of the Conference on Changes in the Biota of Lakes Erie and Ontario. *Robert A. Sweeney*, Director, The Great Lakes Laboratory, Buffalo, N. Y., Editor. Bulletin of the Buffalo Society of Natural Sciences. Vol. 25, No. 1. 1969. vii+84 p. \$2.10 postpaid from the Buffalo Museum of Sciences, Humboldt Park, Buffalo, N. Y. 14211.

These "Proceedings" report the presentations of three speakers who are experts on the Biota of Lakes Erie and Ontario. Dr. Charles A. Dambach, The Ohio State University, delivered the keynote address on "Changes in the Biology of the Lower Great Lakes." Dr. Charles C. Davis, Memorial University of Newfoundland, spoke on "Plants in Lakes Erie and Ontario, and changes of their Numbers and Kinds." Dr. Ralph O. Brinkhurst, University of Toronto, spoke on "Changes in the Benthos of Lakes Erie and Ontario." The objective of the Conference, "Changes in the Biota of Lakes Erie and Ontario," was expertly achieved through use of graphic data to illustrate past and present occurrence and distribution of the Biota. These graphic data are included, as are questions by eighteen participants and the answers they engendered. Pertinent bibliographies accompany each presentation. The "Proceedings" is well prepared and constitutes an important resumé of research dealing with Lakes Erie and Ontario.

CLARENCE E. TAFT

BOOK REVIEWS

The Prodromus of Nicholas Steno's Dissertation concerning a solid body enclosed by process of nature within a solid. Translated by *John Garrett Winter*, with a forward by W. H. Hobbs and introduction by George W. White. Hafner Pub. Co., Inc., New York and London (Reprint of translation, 1916, of original, 1910) 1968. vii+114 p. \$12.50.

Winter's translation was first published in the University of Michigan Humanistic Series, Vol. XI, Pt. 2, 1916; it was based on a facsimile of the original edited by V. Maar and published in Copenhagen in 1910. Included in the Hafner reprint is the English translation of the Latin original, a biography of Steno, a bibliography of his writings, and a selection of references pertaining to his work. In addition, there is a forward by William H. Hobbs that discusses the more important geological contributions contained in the *Prodromus*. For the Hafner reprint, George W. White has added a forward and a list of recent references concerning Steno and his work. Winter's translation contains many explanatory notes that give valuable aid to the reader in interpreting the terms and expressions used. The book is well printed and well bound, and contains a useful index.

The value of Steno's writings in the development of the philosophy of geology is familiar to any who have read general histories on the subject. He is the author of some of the most elemental principles of geology, e.g., the law of superposition, original horizontality of sediments, etc. His writings are universally mentioned in later general works on the philosophy or history of geology, but he is commonly quoted only briefly, or summarized in such a way that only the statement of the principles offered is recorded. And often, in the history of science, some doubt arises as to how much one is interpreting the early expression of ideas in light of present knowledge rather than in the context of the time. In this book, the ideas in context can readily be studied and enjoyed. Here, one can read the complete work to judge for himself the meaning and importance of the ideas expressed. In addition, bibliographic guides are given to allow the reader to pursue his inquiry into the intellectual climate of the time.

This is an example of reprinting at its best, making available in English one of the truly classic works of geology, accompanied by most helpful notes and references.

CHARLES H. SUMMERSON

Climatic Accidents in Landscape-making. *C. A. Cotton*. Hafner Publishing Company, Inc., New York and London. (Reprint) 1969. xx+354 p.+lviii plates. \$15.

This reprint is a facsimile of the 1947 edition; the book was published originally in 1942. The 117 photographs have lost some contrast in reproduction, but the 149 line drawings are excellent. The original dedication to Willard D. Johnson has been omitted. The climatic accidents, which are those of W. M. Davis, are changes from "normal" humid temperate conditions aridity and to cold. The book is divided into two sections: section 1, "Dry and dry-seasonal climatic landscape types" consisting of nine chapters, and section 2, "Glaciated landscapes", consisting of fifteen chapters.

Section 1 is an excellent synthesis of the views held 25 years ago on arid and semi-arid landscape development under warm and temperate climates. Surprisingly, the results of a combination of the two climatic accidents, resulting in cold desert conditions, are not discussed. This section contains much of lasting value and, like the entire book, is eminently readable. It largely ignores the quantitative study of processes, but, as an introduction to the topics discussed, it has much to recommend it.

Section 2, "Glaciated landscapes", as its title implies, virtually ignores periglacial processes and the resultant landforms. It is concerned mainly with the more spectacular forms of glacial erosion, that is, with the results of mountain glaciation. Ice-contact features, fluvioglacial deposits, and landforms of continental glaciation receive short treatment. The opening chapter is devoted mainly to glacier flow; great progress has been made in this field in the last 20 years and Cotton's treatment is inevitably out of date. The chapters on the erosional features in glaciated mountains, which compose the bulk of this section, cover different viewpoints fairly. These chapters are good and are relevant today; although new hypotheses have since arisen, not a great deal more is known about what goes on beneath a thick glacier.

J. H. MERCER